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Application No.: 10/725,859

Docket No.: MWS-093

REMARKS

In this Response, Applicants have amended claims 1, 6, 12, 16, 18, 22-27 and 32. Claims 1-35 are currently pending, of which claims 1, 12, 22 and 27 are independent. No new matter has been added.

I. Double Patenting

The Examiner rejected claims 1-35 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-51 of United States Patent Number 7,165,253. See Office Action, paragraph 6.

Applicants are filing a terminal disclaimer herewith in response to the rejection of claims 1-35 on the ground of non-statutory obviousness-type double patenting. Accordingly, Applicants respectfully request the Examiner to reconsider and to withdraw the objection to claims 1-35.

II. Objections to the Claims

The Examiner objected to claims 6, 18, 23 and 32 because the claims do not define the abbreviations used in the claims. See Office Action, paragraph 4. Applicants have amended claims 6, 18, 23 and 32 to add definitions of the abbreviations used in the claims, and request the Examiner to reconsider and to withdraw the objection to claims 6, 18, 23 and 32.

III. Summary of Claim Rejections

Claims 1-35 stand rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter.

Claims 1-5, 7-17, 19-22, 24-31 and 33-35 stand rejected under 35 U.S.C. §102(e) as being anticipated by United States Patent Number 6,874,148 to Richardson et al (hereafter "Richardson").

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Claims 6, 18, 23 and 32 stand rejected under 35 U.S.C. §103(a) as being unpatentable over United States Patent Number 6,874,148 to Richardson et al in view of “Apache 1.3 Dynamic Shared Object (DSO) Support,” pp. 1-8, by Engelschall (hereafter “Engelschall”).

IV. Claim Rejections under 35 U.S.C. §101

The Examiner rejected claims 1-35 under 35 U.S.C. §101 as allegedly being directed to non-statutory subject matter. See Office Action, paragraph 5.

A. Claims 1-21 and 27-35

Regarding claims 1-21 and 27-35, the Examiner alleged that “No physical transformation is recited and additionally, the final result of the claims is not a tangible result.” See Office Action, paragraph 5. Amended independent claims 1 and 27 recite “creating and storing the interface to the library function in the shared library.” Similarly, amended independent claim 12 recites “automatically generating and storing an interface to the library function.”

Applicants respectfully submit that the amended claims are directed to statutory subject matter for at least the following reasons. First, the stored interface to the library function is available for use and is thus a *tangible* result. Second, the result is *useful* since the stored interface to the library function may be used to execute the library function from a dynamic environment.

In view of the amendments to claims 1, 12 and 27 and the foregoing arguments, Applicants respectfully request reconsideration and withdrawal of the 35 U.S.C. §101 rejections of claims 1, 12 and 27.

Claims 2-11 depend from independent claim 1 and, as such, incorporate all of the features of claim 1. Claims 13-21 depend from independent claim 12 and, as such, incorporate all of the features of claim 12. Claims 28-35 depend from independent claim 27 and, as such, incorporate all of the features of claim 27. Accordingly, the foregoing amendments and arguments also apply to claims 2-11, 13-21 and 28-35. Applicants respectfully request reconsideration and withdrawal of the 35 U.S.C. §101 rejections of claims 2-11, 13-21 and 28-35.

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B. Claims 22-26

Regarding claims 22-26, the Examiner alleged that “The claims recite a device in the preamble only, the body of the claims merely contains software components. Therefore, the claims are software *per se* and are not embodied in a computer storage medium and therefore not a “device.”” See Office Action, paragraph 5.

Amended independent claim 22 recites:

“A *computer-implemented system* for calling a shared library from a dynamic environment, the system comprising:
an application providing a dynamic environment;
a shared library accessible by the dynamic environment;
an automated processing function for automatically extracting information for *creating and storing an interface to a library function* to enable execution of the library function from the shared library.” [emphasis added]

Applicants respectfully submit that amended claim 22 is directed to statutory subject matter because the claim recites a *computer-implemented system* including software components. Amended claim 22 also recites “creating and storing an interface to a library function.” Therefore, the foregoing arguments in connection with the statutory nature of amended claims 1-21 and 27-35 also apply to claim 22. Applicants thus contend that claim 22 recites a computer-implemented system including software components that produces a useful, concrete and tangible result.

In view of the amendments to claim 22 and the foregoing arguments, Applicants respectfully request reconsideration and withdrawal of the 35 U.S.C. §101 rejection of claim 22.

Claims 23-26 depend from independent claim 22 and, as such, incorporate all of the features of claim 22. Accordingly, the foregoing amendments and arguments also apply to claims 23-26. Applicants respectfully request reconsideration and withdrawal of the 35 U.S.C. §101 rejections of claims 23-26.

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V. Claim Rejections under 35 U.S.C. §102

The Examiner rejected claims 1-5, 7-17, 19-22, 24-31 and 33-35 under 35 U.S.C. §102(e) as being anticipated by United States Patent Number 6,874,148 to Richardson et al. (hereafter “Richardson”). Applicants respectfully traverse the 35 U.S.C. §102(e) rejections of claims 1-5, 7-17, 19-22, 24-31 and 33-35 for the reasons set forth below.

Richardson discusses enabling a program to call into graphical program code via a shared library (Richardson, abstract). Graphical programs or subprograms may have associated inputs or outputs of various data types (Richardson, abstract). When creating a shared library, a functional interface specifying parameterized versions of these inputs and outputs may be specified (Richardson, abstract). A program may then utilize this functional interface to construct an appropriate call into the shared library (Richardson, abstract).

A. Claim 1

Amended independent claim 1 recites:

“In an electronic device, a method of accessing a library function in a shared library from a dynamic environment, comprising the steps of:
processing a header file of the library function to extract information for creating an interface to the library function; and
creating and storing the interface to the library function in the shared library.” [emphasis added]

Applicants respectfully submit that Richardson fails to disclose each and every feature of claim 1. Therefore, Richardson does not support a valid 35 U.S.C. §102(e) rejection of claim 1. For example Richardson does not disclose or suggest at least the following features of claim 1:
(a) “*creating and storing the interface to the library function in the shared library,*” and (b) “*processing a header file of the library function to extract information for creating an interface to the library function.*”

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(a) "creating and storing the interface to the library function in the shared library"

Applicants respectfully submit that Richardson fails to disclose “creating and storing the interface to *the library function in the shared library*,” as recited in claim 1. The Examiner cites Richardson as disclosing the above feature of claim 1. See Office Action, pages 6-7. Specifically, the Examiner points to column 4, lines 15-44, column 9, lines 6-28, Figure 6 and the discussion beginning at column 10, line 60 in Richardson as disclosing the above feature of claim 1. Applicants respectfully disagree because the cited sections of Richardson are directed to the creation of a functional interface of a graphical program that is not yet in a shared library, as discussed below.

Richardson at column 9, lines 6-28, cited by the Examiner, discusses step 202 in the flowchart of Figure 3A. Figure 3A illustrates creation of a shared library that includes graphical program code. In step 202, the user specifies the functional interface for the shared library entry point for the graphical program code. However, the shared library is itself created only in subsequent step 204. Thus, the functional interface of the graphical program code is created at a time when *the graphical program code is not in a shared library*. In contrast, Applicants’ claim 1 requires creating an interface to a *library function in a shared library*. The cited section of Richardson is not directed to the subject matter of claim 1 and fails to disclose “creating and storing the interface to *the library function in the shared library*,” as recited in claim 1.

Richardson at column 4, lines 15-44, cited by the Examiner, discusses that, *when creating a shared library from a graphical program*, a functional interface specifying parameterized versions of the inputs and outputs may be specified. A program may then utilize this functional interface to construct an appropriate call into the shared library. The language in this section indicates that the functional interface is specified before creation of the shared library. Thus, this cited section also fails to disclose creating an interface to *a library function in a shared library*.

Richardson in Figure 6 and related text, cited by the Examiner, presents a flowchart illustrating how a user may specify a functional interface for a shared library entry point function for a graphical program. The cited sections do not disclose that the functional interface is

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created for a graphical program already in a shared library. In contrast, Applicants' claim 1 requires creation of an interface to a library function in a shared library. Thus, this cited section fails to disclose "creating and storing the interface to *the library function in the shared library*," as recited in claim 1.

(b) "processing a header file of the library function to extract information for creating an interface to the library function"

Applicants respectfully submit that Richardson fails to disclose "*processing a header file* of the library function to extract information for creating an interface to the library function," as recited in claim 1. The Examiner cites Richardson as disclosing the above feature of claim 1. See Office Action, pages 6-7. Specifically, the Examiner points to column 4, lines 15-44, column 9, lines 6-28, Figure 6 and the discussion beginning at column 10, line 60 in Richardson as disclosing the above feature of claim 1. Applicants respectfully disagree because Richardson does not disclose processing a header file of a graphical program, as discussed below.

Richardson in Figure 6 and related text, cited by the Examiner, presents a flowchart for a user to specify a functional interface for a shared library entry point function for a graphical program. Using mapping information displayed by the graphical programming environment, the user then associates the parameter with the appropriate input and/or output of the graphical program. See Richardson, Figure 6. In this cited section, the functional interface is interactively created by the user. The user uses *mapping information displayed by the graphical programming environment*, and does not employ *processing of a header file of the graphical program*. In contrast to the interactive process illustrated in the cited section of Richardson, Applicants' claim 1 requires "*processing a header file of the library function* to extract information for creating an interface to the library function."

Richardson at column 4, lines 15-44, cited by the Examiner, discusses specifying parameterized versions of the inputs and outputs of a graphical program in a functional interface. This cited section also fails to disclose "*processing a header file of the library function* to extract information for creating an interface to the library function," as required by claim 1.

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Richardson at column 9, lines 6-28, cited by the Examiner, discusses defining a functional interface that specifies the desired mapping of the graphical program inputs/outputs to entry point function parameters. In connection with Figure 3, the cited section discusses how a user may interactively define the aforementioned functional interface. However, the cited section is silent on the subject matter of header files of the graphical programs, and fails to disclose "*processing a header file of the library function* to extract information for creating an interface to the library function," as required by claim 1.

For at least the reasons presented above, Applicants respectfully request reconsideration and allowance of claim 1.

B. Claims 2-5 and 7-11

Claims 2-5 and 7-11 depend from independent claim 1 and, as such, incorporate all of the features of claim 1. Accordingly, claims 2-5 and 7-11 are allowable for at least the reasons set forth above with respect to claim 1. Applicants respectfully request reconsideration and allowance of claims 2-5 and 7-11.

C. Claim 12

Amended independent claim 12 recites:

"In an electronic device, a method of accessing *a library function in a shared library* from a dynamic environment, comprising the steps of:
loading the library function from the shared library;
automatically generating and storing an interface to the library function;
and
executing the library function using the interface from the shared library."
[emphasis added]

Applicants respectfully submit that Richardson fails to disclose at least the following feature of claim 12: "*automatically generating and storing an interface to the library function.*" The preamble of claim 1 sets forth that the "library function" in the above feature of claim 1 is "in a shared library." Richardson fails to disclose the above feature of claim 12 as discussed

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above in connection with claim 1, and therefore claim 12 is patentable for at least this reason. Applicants respectfully request reconsideration and allowance of claim 12.

D. Claims 13-17 and 19-21

Claims 13-17 and 19-21 depend from independent claim 12 and, as such, incorporate all of the features of claim 12. Accordingly, claims 13-17 and 19-21 are allowable for at least the reasons set forth above with respect to claim 12. Applicants respectfully request reconsideration and allowance of claims 13-17 and 19-21.

E. Claim 22

Amended independent claim 22 recites:

"A computer-implemented system for calling a shared library from a dynamic environment, the system comprising:

an application providing a dynamic environment;
a shared library accessible by the dynamic environment;
an automated processing function for automatically extracting information
*for creating and storing an interface to a library function to enable execution of
the library function from the shared library.*" [emphasis added]

Applicants respectfully submit that Richardson fails to disclose at least the following feature of claim 22: "*an automated processing function for automatically extracting information for creating and storing an interface to a library function to enable execution of the library function from the shared library.*" Claim 22 requires creating an interface to a library function from a shared library. Richardson fails to disclose the above feature of claim 22 as discussed above in connection with claim 1, and therefore claim 22 is patentable for at least this reason. Applicants respectfully request reconsideration and allowance of claim 22.

F. Claims 23-26

Claims 23-26 depend from independent claim 22 and, as such, incorporate all of the features of claim 22. Accordingly, claims 23-26 are allowable for at least the reasons set forth

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above with respect to claim 22. Applicants respectfully request reconsideration and allowance of claims 23-26.

G. Claim 27

Amended independent claim 27 recites:

"A medium for use in a modeling and execution environment on an electronic device, the medium holding instructions executable using the electronic device for performing a method of accessing a library function in a shared library from a dynamic environment, the method comprising the steps of:

processing a header file of the library function to extract information for creating an interface to the library function; and

creating and storing the interface to the library function in the shared library." [emphasis added]

Applicants respectfully submit that Richardson fails to disclose at least the following features of claim 27: (a) "creating and storing the interface to the *library function in the shared library*," and (b) "*processing a header file of the library function to extract information for creating an interface to the library function*," as discussed above in connection with claim 1, and therefore claim 27 is patentable for at least this reason. Applicants respectfully request reconsideration and allowance of claim 27.

H. Claims 28-31 and 33-35

Claims 28-31 and 33-35 depend from independent claim 27 and, as such, incorporate all of the features of claim 27. Accordingly, claims 28-31 and 33-35 are allowable for at least the reasons set forth above with respect to claim 27. Applicants respectfully request reconsideration and allowance of claims 28-31 and 33-35.

VI. Claim Rejections under 35 U.S.C. §103

The Examiner rejected claims 6, 18, 23 and 32 under 35 U.S.C. §103(a) as being unpatentable over Richardson in view of Engelschall. Applicants respectfully traverse the rejection for the reasons set forth below.

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Richardson has been summarized above.

Engelschall discusses dynamic linking/loading of *Dynamic Shared Objects* (DSO) which provides a way to build a piece of program code in a special format for loading it at run-time into the address space of an executable program (Engelschall, Background). Version 1.3 of Apache makes use of the DSO mechanism to extend its functionality at run-time (Engelschall, Practical Usage).

A. Claim 6

Claim 6 depends from independent claim 1. Applicants respectfully submit that Richardson and Engelschall, alone or in any reasonable combination, fail to disclose or suggest all of the features of claim 6. More particularly, Applicants respectfully submit that the combination of Richardson and Engelschall fail to disclose or suggest at least the following feature of claim 6: "*processing a header file of the library function* to extract information for creating an interface to the library function."

As discussed previously, Richardson fails to disclose or suggest the above feature of claim 6. The teachings of Engelschall do not supplement Richardson in such a way as to cure Richardson's failure to disclose or suggest the above feature of claim 6. Engelschall does not address processing the header file of a library function to extract information for creating an interface to the library function. In contrast, claims 1 and 6 both recite: "*processing a header file of the library function* to extract information for creating an interface to the library function."

For at least the reasons presented above, Richardson and Engelschall, alone or in any reasonable combination, do not disclose or suggest the features of claim 6. Therefore, Richardson and Engelschall do not support a valid 35 U.S.C. §103(a) rejection of claim 6.

B. Claim 18

Claim 18 depends from independent claim 12. Applicants respectfully submit that Richardson and Engelschall, alone or in any reasonable combination, fail to disclose or suggest all of the features of claim 18. More particularly, Applicants respectfully submit that the

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combination of Richardson and Engelschall fail to disclose or suggest at least the following feature of claim 18: “automatically generating and storing *an interface to the library function.*”

As discussed previously, Richardson fails to disclose or suggest the above feature of claim 18. The teachings of Engelschall do not supplement Richardson in such a way as to cure Richardson’s failure to disclose or suggest the above feature of claim 18. Engelschall does not address automatically generating an interface to a library function in a shared library. In contrast, claims 12 and 18 both recite: “automatically generating and storing *an interface to the library function.*”

For at least the reasons presented above, Richardson and Engelschall, alone or in any reasonable combination, do not disclose or suggest the features of claim 18. Therefore, Richardson and Engelschall do not support a valid 35 U.S.C. §103(a) rejection of claim 18.

C. Claim 23

Claim 23 depends from independent claim 22. Applicants respectfully submit that Richardson and Engelschall, alone or in any reasonable combination, fail to disclose or suggest all of the features of claim 23. More particularly, Applicants respectfully submit that the combination of Richardson and Engelschall fail to disclose or suggest at least the following feature of claim 23: “an automated processing function for automatically extracting information for creating and storing *an interface to a library function* to enable execution of the library function from the shared library.”

As discussed previously, Richardson fails to disclose or suggest the above feature of claim 23. The teachings of Engelschall do not supplement Richardson in such a way as to cure Richardson’s failure to disclose or suggest the above feature of claim 23. Engelschall does not address automatically generating an interface to a library function in a shared library. In contrast, claims 22 and 23 both recite: “an automated processing function for automatically extracting information for creating and storing *an interface to a library function* to enable execution of the library function from the shared library.”

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For at least the reasons presented above, Richardson and Engelschall, alone or in any reasonable combination, do not disclose or suggest the features of claim 23. Therefore, Richardson and Engelschall do not support a valid 35 U.S.C. §103(a) rejection of claim 23.

D. Claim 32

Claim 32 depends from independent claim 27. Applicants respectfully submit that Richardson and Engelschall, alone or in any reasonable combination, fail to disclose or suggest all of the features of claim 32. More particularly, Applicants respectfully submit that the combination of Richardson and Engelschall fail to disclose or suggest at least the following feature of claim 32: "*processing a header file of the library function to extract information for creating an interface to the library function.*"

As discussed previously, Richardson fails to disclose or suggest the above feature of claim 32. The teachings of Engelschall do not supplement Richardson in such a way as to cure Richardson's failure to disclose or suggest the above features of claim 32. Engelschall does not address processing the header file of a library function to extract information for creating an interface to the library function. In contrast, claims 27 and 32 both recite: "*processing a header file of the library function to extract information for creating an interface to the library function.*"

For at least the reasons presented above, Richardson and Engelschall, alone or in any reasonable combination, do not disclose or suggest the features of claim 32. Therefore, Richardson and Engelschall do not support a valid 35 U.S.C. §103(a) rejection of claim 32.

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CONCLUSION

In view of the foregoing claim amendments and remarks, Applicants believe that all claims should be passed to issuance. Should the Examiner feel that a teleconference would expedite the prosecution of this application, the Examiner is urged to contact the Applicants' attorney at (617) 227-7400.

Please charge any shortage or credit any overpayment of fees to our Deposit Account No. 12-0080, under Order No. MWS-093. In the event that a petition for an extension of time is required to be submitted herewith, and the requisite petition does not accompany this response, the undersigned hereby petitions under 37 C.F.R. §1.136(a) for an extension of time for as many months as are required to render this submission timely. Any fee due is authorized to be charged to the aforementioned Deposit Account.

Dated: June 4, 2007

Respectfully submitted,

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